

## **REMARKS**

Claims 1-4, 7-10, 14-18 are now pending in the application. Claims 5, 13 and 20 are cancelled without prejudice. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

### **Claim Rejections under 35 U.S.C. §112**

Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicants regard as the invention. In particular, claim 5 is rejected because it contains the trademark/trade name "FR4". Claim 5 is cancelled, and therefore this rejection is now mute.

### **Claim Rejections under 35 U.S.C. §102(b)**

Claims 1-5, 7-10, 13-18 and 20 are rejected under 35 U.S.C. § 102(b), as being anticipated by Asakura et al. (US 5,870,066).

Asakura et al. fails to teach that the ground surface on the microwave substrate overlaps with a portion of the area underneath the dual-band chip antenna on the microwave substrate, as amended independent claims 1 and 14 recite. As described in the specification and shown in Figures 1 and 2 of the present application, the portion of the first segment 121 adjacent to the connecting point 13 is located right above the ground surface 30 so as to form a partially-overlapped portion between the chip antenna and the ground surface of the mother board of the communication product. Because the partially-overlapped portion on the chip antenna is isolated from the ground surface 30 with the microwave substrate 40, and does not directly contact the ground surface 30, the following substantial advantages are realized:

- (1) The partially-overlapped portion can generate an extra capacitance used for

adjusting the antenna input impedance, thereby obtaining good impedance match for the chip antenna; and

(2) Due to the existence of the partially-overlapped portion, the chip antenna of the claimed invention can be relatively easily hidden inside the housing of the communication product, so as to form an embedded or internal antenna.

A rejection for anticipation under section 102 requires that each and every limitation of the claimed invention be disclosed in a single prior art reference." In re Paulsen, 31 USPQ 2d 1671 (Fed. Cir. 1994). Accordingly, since Asakura et al. does not teach or suggest the partially-overlapped portion between the chip antenna and the ground surface as recited in amended claims 1 and 14, claims 1 and 14, and claims 2-4, 7-10, and 15-18, which ultimately depend from claims 1 and 14, are not anticipated by Asakura et al.

Further, with regard to claims 2 and 14, Asakura et al. fails to disclose the  $1/4$  wavelength limitation for the total length of the antennas recited in Claims 2 and 14.

With regard to Claims 4 and 16, Asakura et al. fails to teach a cylindrical chip base as recited in amended claims 4 and 16.

With regard to Claims 10 and 18, Asakura et al. fails to disclose that the width of the meandering radiating metal line is variable. Specifically, Figures 4-5 of Asakura et al. merely present embodiments with different conductor patterns, and not a conductor with variable width, as asserted in paragraph 5, page 4 of the Office Action.

For these reasons, Applicants respectfully request that the section 102(b) rejections be withdrawn.

## CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request

that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

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Respectfully submitted,

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